

What is claimed is:

1. A wireless device, comprising:

a wireless communication interface supporting
5 communication across a wireless connection; and
a controller connected to said wireless interface
supporting a negotiation service and a communication
service;

wherein said negotiation service provides interface
10 negotiation for using said wireless interface to
negotiate with another device to select a
communication interface for communication with said
another device, and

said communication service provides control and
15 management of communication with said another device
across a connection established using said negotiation
service.

2. The wireless device of claim 1, wherein:

20 said wireless interface support Bluetooth.

3. The wireless device of claim 1, further comprising:
a second communication interface.

25 4. The wireless device of claim 3, wherein:

said second communication interface supports Wi-Fi.

5. The wireless device of claim 3, wherein:

each of said wireless interface and said second
30 communication interface support respective types of
wireless communication.

6. The wireless device of claim 5, further comprising:
a third communication interface supporting a wired
connection.

5 7. The wireless device of claim 3, wherein:
said second communication interface provides a higher
data rate than said wireless interface.

8. The wireless device of claim 3, wherein:
10 said second communication interface uses more power than
said wireless interface.

9. The wireless device of claim 3, wherein:
a first connection opened using said negotiation service
15 and said wireless interface is kept open while a
second connection opened using said communication
service and said second communication interface is
open.

20 10. The wireless device of claim 1, wherein:
said negotiation service provides interface negotiation
automatically.

11. The wireless device of claim 10, wherein:
25 said negotiation service provides interface negotiation
in response to a request by a user.

12. The wireless device of claim 10, wherein:
said negotiation service selects a communication
30 interface without user input.

13. The wireless device of claim 10, wherein:
said negotiation service selects a communication
interface using settings previously provided by a
user.

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14. The wireless device of claim 1, wherein:
said wireless interface supports a direct connection to
said another device.

10 15. The wireless device of claim 14, wherein:
said direct connection is a newly established ad hoc
network established with said another device.

16. The wireless device of claim 1, wherein:
15 said wireless interface supports an indirect connection
to said another device using a network.

17. The wireless device of claim 1, wherein:
said wireless interface supports receiving a beacon
20 signal from a beacon source, and
said negotiation service uses said beacon signal to open
communication.

18. The wireless device of claim 17, wherein:
25 said beacon signal indicates said another device as a
target device and a target interface, and
said another device is different from said beacon source.

19. A method of interface negotiation, comprising:
30 searching for a second device using a default interface
of a first device;
establishing a negotiation connection between said first
device and said second device using said default
interface;

negotiating to select a communication interface using
said negotiation connection;
establishing a communication connection using said
selected interface;
5 communicating between said first device and said second
device using said communication connection; and
closing said communication connection;
wherein said default interface is a wireless interface.

10 20. The method of claim 19, further comprising:
searching for said second device using a secondary
interface.

21. The method of claim 19, wherein:
15 said negotiation connection is open while said
communication connection is open.

22. The method of claim 19, wherein negotiating to select a
communication interface includes:
20 determining one or more available interfaces;
determining one or more compatible interfaces from among
said one or more available interfaces; and
selecting one of said one or more compatible interfaces
as said communication interface using one or more
25 communication criteria.

23. The method of claim 22, wherein:
said communication criteria include data rate and power
use.

30 24. The method of claim 22, wherein negotiating to select a
communication interface also includes:
selecting a communication mode.

25. The method of claim 24, wherein:

5 said communication mode indicates whether to use a direct
 connection between said first device and said second
 device or an indirect connection between said first
 device and said second device for said communication
 connection.

26. The method of claim 24, wherein:

10 said communication mode indicates a type of encryption to
 use for said communication connection.

27. The method of claim 19, further comprising:

15 receiving a beacon signal from a beacon source at said
 first device; and
 determining a target device and a target interface using
 said beacon signal;
 wherein said target device is said second device and said
 target interface is said default interface.

20 28. The method of claim 27, wherein:

 said target device is different from said beacon source.

29. A system for interface negotiation, comprising:

25 means for searching for a second device using a default
 interface of a first device;
 means for establishing a negotiation connection between
 said first device and said second device using said
 default interface;
 means for negotiating to select a communication interface
30 using said negotiation connection;
 means for establishing a communication connection using
 said selected interface;

means for communicating between said first device and
said second device using said communication
connection; and

means for closing said communication connection;

5 wherein said default interface is a wireless interface.

30. The system of claim 29, further comprising:

means for determining one or more available interfaces;

means for determining one or more compatible interfaces

10 from among said one or more available interfaces; and

means for selecting one of said one or more compatible
interfaces as said communication interface using one
or more communication criteria.

15 31. The system of claim 30, further comprising:

means for selecting a communication mode.

32. The system of claim 29, further comprising:

means for receiving a beacon signal from a beacon source
20 at said first device; and

means for determining a target device and a target
interface using said beacon signal;

wherein said target device is said second device and said
target interface is said default interface.

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33. A computer program, stored on a tangible storage
medium, for use in interface negotiation, the program
comprising executable instructions that cause a computer
to:

30 search for a second device using a default interface of a
first device;

establish a negotiation connection between said first
device and said second device using said default
interface;

negotiate to select a communication interface using said
negotiation connection;

establish a communication connection using said selected
interface;

5 communicate between said first device and said second
 device using said communication connection; and
 close said communication connection;

wherein said default interface is a wireless interface.

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